Claims

What is claimed is:

1. A method for operating at least one low-pressure discharge lamp using an inverter, the occurrence of a rectifier effect in said at least one low-pressure discharge lamp being monitored during the operation of the at least one low-pressure discharge lamp in order to determine the end of its life, wherein
for the purpose of monitoring said rectifier effect of the at least one low-pressure discharge lamp, the d.c. voltage drop across the electric connections of said at least one low-pressure discharge lamp, the electric power fed into said inverter, or a first variable which is proportional thereto, and a second variable correlated with the running voltage of said least one low-pressure discharge lamp are evaluated.

2. The method as claimed in claim 1, wherein said second variable correlated with the running voltage of the said at least one low-pressure discharge lamp is the r.m.s. value of the a.c. voltage component of the running voltage of said at least one low-pressure discharge lamp.

3. The method as claimed in claim 1, wherein said second variable correlated with the running voltage of said at least one low-pressure discharge lamp is a constant value which corresponds to the average value of said running voltage which is characteristic of the lamp type of said at least one low-pressure discharge lamp.

4. The method as claimed in claim 1, wherein the product of the electric power fed into said inverter and the quotient of the d.c. voltage drop across the electric connections of said at least

one low-pressure discharge lamp and the second variable correlated with the running voltage of the at least one low-pressure discharge lamp is compared with a predetermined power value.

5. The method as claimed in claim 1, wherein the product of a predetermined power value and said second variable correlated with the running voltage of said at least one low-pressure discharge lamp is compared with the product of the electric power fed into said inverter and the d.c. voltage drop across the electric connections of the at least one low-pressure discharge lamp.

6. The method as claimed in claim 1, wherein the electric power fed into said inverter, the d.c. voltage drop across the electric connections of said at least one low-pressure discharge lamp and the r.m.s. value of the a.c. voltage component of the running voltage of said at least one low-pressure discharge lamp are determined from measured values which are fed to a microcontroller, and a program-controlled evaluation is carried out by the microcontroller.

7. The method as claimed in claim 4, wherein the comparison is cyclically repeated during the lamp operation.

8. The method as claimed in claim 7, wherein a counter operation is performed as a function of the result of the comparison and a status bit is set or reset in the event of the counter overflowing.

9. The method as claimed in claim 1, wherein the values, which are determined at different points in time in the lamp operation, for the difference

between the product of the electric power fed into said inverter and of the d.c. voltage drop across the electric connections of the at least one low-pressure discharge lamp and the product of a predetermined power value and of the second variable correlated with the running voltage of the at least one low-pressure discharge lamp are added up and evaluated.

10. The method as claimed in claim 1, wherein the electric power fed into said inverter is determined from the voltage drop across a voltage divider which is arranged in parallel with the input of said inverter, and from the voltage drop across a resistor which is connected in series with an inverter transistor during a switching phase of said inverter and which at the same time has all of the current of said inverter flowing through it.

11. The method as claimed in claim 1, wherein said inverter is supplied with an approximately constant d.c. voltage, and said first variable is the voltage drop across a resistor which, during a switching phase of said inverter, has all of the current of the inverter flowing through it.

12. An operating device for at least one low-pressure discharge lamp having

- a half-bridge inverter, to which is connected a load circuit in which electric connections for at least one low-pressure discharge lamp and at least one half-bridge capacitor are arranged,
- a first measuring apparatus for measuring a first voltage which is proportional to the electric power injected into said half-bridge inverter,

- a second measuring apparatus for measuring a second voltage which is proportional to the voltage drop across said at least one half-bridge capacitor,
- a third measuring apparatus for measuring a third voltage which is proportional to the r.m.s. value of the running voltage of said at least one low-pressure discharge lamp,
- a fourth measuring apparatus for measuring a fourth voltage which is proportional to the supply voltage of said half-bridge inverter,
- an evaluation unit which is connected to the outputs of said measuring apparatuses and comprises a program-controlled microcontroller and which serves the purpose of evaluating said first to fourth voltage as well as of controlling said half-bridge inverter as a function of the result of the evaluation.